STATE OF NEW MEXICO
ENVIRONMENTAL IMPROVEMENT BOARD

IN THE MATTER OF PROPOSED NEW REGULATION,
20.2.50 NMAC – *Oil and Gas Sector – Ozone Precursor Pollutants* **No. EIB 21-27 (R)**

DIRECT TESTIMONY OF MICHAEL BACA

My name is Michael Baca, and I am the Control Strategies Manager for the Air Quality Bureau ("Bureau") of the New Mexico Environment Department ("NMED" or "Department"). I am presenting this written testimony on behalf of the Department in this proceeding on proposed new air quality regulations at 20.2.50 NMAC ("Part 50"). My testimony will address the following topics: the federal and state statutory authorities and regulatory frameworks for ozone, NMED's Ozone Attainment Initiative, and the EPA Ozone Advance program.

I. QUALIFICATIONS

I have been an employee of the Department for 16 years, 13 of which have been with the Bureau. In my current position as the staff manager for the Bureau's Control Strategies Unit, I oversee a staff of six that are responsible for the development of air quality plans and regulations, including the State Implementation Plan ("SIP") for New Mexico. I hold a B.A. degree in Chemistry from Carleton College.

My full background and qualifications are set forth in my resume, which is marked as NMED Exhibit 2.

II. THE CLEAN AIR ACT REGULATORY FRAMEWORK FOR OZONE

The federal Clean Air Act ("CAA") requires the U.S. Environmental Protection Agency ("EPA") to set National Ambient Air Quality Standards ("NAAQS") for pollutants that EPA determines are harmful to public health and the environment. *See* 42 U.S.C. § 7408. These standards are in the form of maximum allowable concentrations in the ambient air during a

specified time period and are designed to protect the most sensitive individuals from harm from airborne pollutants. The CAA identifies two sets of NAAQS to accomplish this: Primary standards provide public health protection, including protecting the health of vulnerable populations such as asthmatics, children, and the elderly; Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. *Id* at § 7408(b).

The EPA has set NAAQS for six principal pollutants, known as "criteria" air pollutants: ozone, nitrogen dioxide, sulfur dioxide, carbon monoxide, particulate matter 10 microns or less, particulate matter 2.5 microns or less, and lead. *See* 40 C.F.R. Part 50. The CAA requires EPA to review the standards on a periodic basis, which may result in the standards being revised based on health and environmental criteria that apply to the concentration of a pollutant in outdoor air to limit harmful exposures and detrimental effects. 42 U.S.C. § 7409(d). The primary ozone NAAQS are set to protect people most at risk from breathing ozone in the ambient air, including asthmatics, children, older adults and people who are active outdoors, such as workers. Children are at greatest risk from ozone exposure because their lungs are still developing and they are more likely to be active outdoors when ozone levels are high, which increases their exposure. Some of the health problems caused by ozone include coughing, sore throat, difficulty breathing, inflammation and damage to airways, increased frequency of asthma attacks, and aggravation of lung diseases such as asthma, emphysema and chronic bronchitis. *See* NMED Exhibit 3 – EPA Integrated Science Assessment ("ISA") for Ozone and Related Photochemical Oxidants, Executive Summary (April 2020);[1] *see also* 85 Fed. Reg. 87256, 87268-87275.

[1] Full ISA available at https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=348522

Air quality management agencies use data from monitors to calculate a "design value" to determine an area's compliance status with the NAAQS. The design value represents the metric used to compare monitoring data to the level specified by the standard. Ozone monitoring and the federal requirements for monitoring equipment are addressed in the testimony of NMED witness Brent Ellington. Calculation of design values, quality assurance of data, and submission of data to EPA are addressed in the testimony of NMED witness Andrew Ahr.

Following promulgation of a new or revised NAAQS, EPA undertakes a process of designating all areas within each state as in attainment, nonattainment, or unclassifiable for the standard. *See* 42 U.S.C. § 7407(d). This process entails collaborating with states and tribes and considering their recommendations, including proposed nonattainment boundaries based on data and information from air quality monitors or modeling. If the concentrations of a criteria pollutant in a geographic area meets or fall below the NAAQS, the area is designated as in "attainment" of the standard. Areas that exceed the NAAQS are designated as "nonattainment" areas. Areas that do not have monitoring data available are designated as "attainment/unclassifiable" or "unclassifiable". EPA is required to designate areas of the States within two years of promulgating a new or revised NAAQS. *Id.*

In October 2015, following a periodic review, EPA revised the ozone NAAQS downward from 0.075 parts per million (ppm) to 0.070 ppm. *See* 80 Fed. Reg. 65291. For the 2015 ozone NAAQS, all states were required to submit their designation recommendations to EPA by October 1, 2016. Ozone data collected by NMED from 2014 through 2016 showed that a monitor located in the Sunland Park area in southern New Mexico was violating the revised ozone standard. NMED submitted a nonattainment area recommendation for the Sunland Park area and recommended attainment or attainment/unclassifiable designations for the remainder of

New Mexico. EPA concurred with the recommendations and finalized the area designations for New Mexico on August 3, 2018. *See* 83 Fed. Reg. 25776.

On December 23, 2020, EPA retained the existing 2015 ozone NAAQS. *See* 85 Fed. Reg. 87256. The CAA does not require EPA to promulgate area designations when an existing NAAQS is retained following the periodic review process. In line with this and historical practice, EPA did not designate new nonattainment areas following this periodic NAAQS review. However, the current EPA administration has indicated that it intends to revisit the review process, including the available scientific evidence and exposure/risk information, to assess the adequacy of public health and welfare protection provided under the current NAAQS.

Ozone monitoring data for 2018-2020 indicate that other areas of the state are approaching or violating the 2015 ozone NAAQS. In particular, Eddy County and sites in southern Doña Ana County are monitoring ozone levels in violation of the NAAQS, while San Juan, Lea, Santa Fe, Sandoval and Valencia Counties are within 95% of the standard. Additionally, oil and gas sources located in Rio Arriba and Chaves Counties contribute to elevated ozone concentrations in the San Juan and Permian Basins, respectively.

The New Mexico Air Quality Control Act ("AQCA"), NMSA 1978, Sections 74-2-1 to -17, requires the State to plan for ozone mitigation in areas where sources cause or contribute to ozone levels greater than or equal to 95% of the ozone standard. NMED is addressing these areas through the Ozone Attainment Initiative and EPA's Ozone Advance program, as discussed below.

III. OZONE REGULATION UNDER THE NEW MEXICO AIR QUALITY CONTROL ACT AND REGULATIONS

The Environmental Improvement Board ("Board") is authorized to adopt Part 50 pursuant to the AQCA. Section 74-2-5(A) of the AQCA provides that the Board "shall prevent or

abate air pollution." Section 74-2-5(B)(1) states that the Board shall "adopt, promulgate, publish, amend, and repeal rules and standards consistent with the Air Quality Control Act to attain and maintain national ambient air quality standards and prevent or abate air pollution . . ." The AQCA defines "air pollution" as

> the emission, except emission that occurs in nature, into the outdoor atmosphere of one or more air contaminants in quantities and of a duration that may with reasonable probability injure human health or animal or plant life or as may unreasonably interfere with the public welfare, visibility or the reasonable use of property.

NMSA 1978, § 74-2-2(B). "Air contaminant" is defined as "a substance, including any particulate matter, fly ash, dust, fumes, gas, mist, smoke, vapor, micro-organisms, radioactive material, any combination thereof or any decay or reaction product thereof." NMSA 1978, § 74-2-2(A).

The AQCA also contains provisions that specifically authorize the Board to adopt regulations to ensure attainment and maintenance of the ozone NAAQS. Section 74-2-5(C) of the AQCA mandates that the Board take action to control VOC and NOx emissions when the Board determines that emissions from sources within its jurisdiction cause or contribute to ozone concentrations in excess of ninety-five percent of the ozone NAAQS. Under this statutory provision, the Board is required to "adopt a plan, including rules, to control emissions of oxides of nitrogen, or NO_X, and volatile organic compounds, or VOCs, to provide for the attainment and maintenance of the standard."

IV. THE DEPARTMENT'S OZONE ATTAINMENT INITIATIVE

Currently, nine counties under the Board's jurisdiction are registering or contributing to ozone design values exceeding 95% of the NAAQS: San Juan, Rio Arriba, Santa Fe, Sandoval, Valencia, Eddy, Lea, Chaves and Doña Ana.

To address the statutory requirement in Section 74-2-5(C) of the AQCA, the Bureau has embarked upon the Ozone Attainment Initiative ("OAI") to develop a plan that consists of a series of mandatory rules and voluntary measures to mitigate emissions of NO_X and VOCs in the aforementioned counties. This rulemaking is the first of the mandatory rules being brought before the Board under the OAI. The Department intends to propose addition rules targeting other sectors. For instance, Section 177 of the Clean Air Act allows other states to adopt California's motor vehicle emission standards, and the Department intends to bring before the Board regulations setting standards for low emission vehicles ("LEV"), and zero emission vehicles ("ZEV") for adoption in 2022 that will provide further mitigation of ozone precursors.

The Department has also submitted a letter of participation to EPA for the Ozone Advance Program. The Advance Program is a means to promote local actions in areas designated as in attainment to reduce ozone levels for the continued maintenance of the NAAQS. The Bureau will coordinate efforts with local governments, industry, academia, and the public to take proactive steps towards the protection of air quality. In addition to positioning areas to avoid a nonattainment designation, the Advance Program can allow communities to choose control measures that are cost effective and that make the most sense for their area, potentially resulting in multi-pollutant benefits.

The Department has developed a path forward for Ozone Advance that outlines all the activities, programs, and control measures to be included as part of our program. A copy of the "Ozone Advance Path Forward for New Mexico" is included as NMED Exhibit 4. The Department requests that the Board adopt this document as the "Plan" required by Section 74-5-3(C) of the AQCA.

Because the ozone design value in Bernalillo County also exceeds 95% of the ozone NAAQS, the Bureau is coordinating its efforts for ozone mitigation with the City of Albuquerque's Environmental Health Department, which has jurisdiction over air quality in Bernalillo County. In addition to the OAI, Ozone Advance and vehicle emissions standards, the Department is also working with the City of Albuquerque on preparing revised Regional Haze SIPs for submittal to EPA in July of 2021. The goal of the Regional Haze provisions of the CAA is to improve visibility in protected national parks and wilderness areas (referred to as "Class I" areas), and states are required to make reasonable progress over time towards the long-term goal of attaining natural visibility conditions by 2064. The Regional Haze program requires states to submit Regional Haze SIPs approximately once every ten years. Based on data collected at monitors operated by federal land managers, visibility impairment at the Class I areas in New Mexico is driven by sulfates and nitrates, so the Department is evaluating potential additional controls for sulfur dioxide (SO_2) and NO_X emissions from twenty-three major sources within our jurisdiction. Three of these sources are electric generating units, and the remainder are in the oil and gas sector, specifically, natural gas compressor stations and processing plants. Any additional NO_X controls for these sources adopted as part of this Regional Haze SIP revision will also serve to reduce the formation of ozone.